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(54) THIN FILM CRYSTAL GROWTH DEVICE AND GROWTH METHOD

(57)Abstract:

PURPOSE: To enable the simultaneous growth of thin film crystal on plural substrates and to allow the stable film formation as there is no change in the intensity of molecular beams by adopting specific constitution for the title device to be operated by, for example, an atomic layer epitaxy method.

CONSTITUTION: The title device to be operated by, for example, the atomic layer epitaxy method is mounted with the plural substrates 8 on a substrate holder 11 and is so constituted that the substrates are heated by a heater 6 from the rear surface and can be rotated integrally with the holder 11 by a rotation control system. Respectively independent molecular beam generating sources 2a, 2b of plural kinds of materials are disposed in the directions where the normals of the apertures thereof do not intersect with each other between the positions of the substrates 8 or the above-mentioned apertures and the positions of the substrates 8. Partitions 9 are provided between the respective molecular beam routes. The device is so constituted that the respective substrates 9 can be moved successively in the partitioned arrival regions of the respective molecular beams by the above-mentioned rotation control system 7. The substrates 8 are held static for every time determined by the respective arrival regions of the plural molecular beams and are then successively moved, by which the films are formed thereon.

